Reporting Systems

Risk Managers, Physicians, and Disclosure of Harmful Medical Errors

David J. Loren, M.D.; Jane Garbutt, M.B., Ch.B.; W. Claiborne Dunagan, M.D.; Kerry M. Bommarito, M.P.H.; Alison G. Ebers; Wendy Levinson, M.D.; Amy D. Waterman, Ph.D.; Victoria J. Fraser, M.D.; Elizabeth A. Summy, M.Sc., C.A.E.; Thomas H. Gallagher, M.D.

Transparency is a vital element of efforts to enhance patient safety. One aspect of transparency that has received particular attention is the disclosure of medical errors.[1–6] Although disclosure of harmful errors to patients is widely recommended, current practice falls far short of this goal.[5,7–10] Disclosure research to date has focused primarily on physicians' and patients' attitudes and experiences. Yet at many hospitals, physicians are not the only institutional participants in a disclosure conversation. Risk managers play a critical role in the disclosure process, collaborating with physicians in planning disclosures and sometimes actually conducting disclosures.[11] Furthermore, risk managers are closely associated with patient safety reporting systems, and event reporting is often the first step in disclosing the error to the patient.

Risk managers' and physicians' training, professional roles, and responsibilities are understandably dissimilar. Consequently, risk managers and physicians may experience differing forces that both encourage and inhibit error disclosure. Physicians have a fiduciary relationship with patients that entails a strong moral obligation to provide patients with truthful information about their health care.[12–14] Physicians also work at the "front line" of medical errors and may experience shame, embarrassment, and a fear of being sued when disclosing harmful errors to patients.[15–18] In contrast, risk managers have traditionally been charged with protecting an institution from legal exposure and financial harm and have historically counseled physicians to share little if any information with patients about errors.[19,20] Yet, because risk managers do not have clinical contact with patients and are not personally involved in errors, they may feel less inhibited than physicians in either recommending or performing disclosure of a harmful medical error to a patient.

At many institutions the role of risk managers has been changing, reflecting an increasing emphasis on promoting patient safety and responding to calls for greater public accountability.[11] In this new role, risk managers have significant opportunities to identify safety issues, advocate for systems

Article-at-a-Glance

Background: Physicians are encouraged to disclose medical errors to patients, which often requires close collaboration between physicians and risk managers.

Methods: An anonymous national survey of 2,988 healthcare facility–based risk managers was conducted between November 2004 and March 2005, and results were compared with those of a previous survey (conducted between July 2003 and March 2004) of 1,311 medical physicians in Washington and Missouri. Both surveys included an error-disclosure scenario for an obvious and a less obvious error with scripted response options.

Results: More risk managers than physicians were aware that an error-reporting system was present at their hospital (81% versus 39%, $p < .001$) and believed that mechanisms to inform physicians about errors in their hospital were adequate (51% versus 17%, $p < .001$). More risk managers than physicians strongly agreed that serious errors should be disclosed to patients (70% versus 49%, $p < .001$). Across both error scenario, risk managers were more likely than physicians to definitely recommend that the error be disclosed (76% versus 50%, $p < .001$) and to provide full details about how the error would be prevented in the future (62% versus 51%, $p < .001$). However, physicians were more likely than risk managers to provide a full apology recognizing the harm caused by the error (39% versus 21%, $p < .001$).

Conclusions: Risk managers have more favorable attitudes about disclosing errors to patients compared with physicians but are less supportive of providing a full apology. These differences may create conflicts between risk managers and physicians regarding disclosure. Health care institutions should promote greater collaboration between these two key participants in disclosure conversations.

changes, develop hospital error-disclosure policies, and participate in the planning and delivery of error disclosures.[11] Improving the quality of communication with patients and families after an error occurs will depend in part on how closely aligned risk managers' and physicians' attitudes are regarding effective disclosure strategies. We therefore conducted a national survey of risk managers' attitudes regarding patient safety and error disclosure and compared the results with our previously published survey of medical physicians.[21]

Table 1. Definitions Provided to Respondents

Adverse event: An injury that was caused by medical management rather than the patient's underlying disease

Medical error: The failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim

Serious error: Error that causes permanent injury or transient but potentially life-threatening harm

Minor error: Error that causes harm but is neither permanent nor potentially life threatening

Near miss: An error that could have caused harm but did not either by chance or timely intervention

Methods

Sample

Between November 1, 2004, and February 28, 2005, invitations to participate in an anonymous Web survey were sent electronically to members of the American Society for Healthcare Risk Management (ASHRM). ASHRM, established in 1980, is a personal membership group of the American Hospital Association (AHA), with approximately 5,200 members at the time of the survey. Surveys were not sent to members of ASHRM who self-identified as students, were living outside of the United States, were employees of AHA or ASHRM, or were U.S. federal government or military employees. Because error disclosure might be less relevant to their scope of professional practice, survey responses (N = 202) from those who reported that they did not work in a health care facility or those who reported no involvement in error disclosure were excluded from analysis. Participation was encouraged through e-mail and fax reminders. Respondents were also entered into a drawing to win a $50 gift card or a registration fee waiver to the 2005 ASHRM annual conference. The inclusion and exclusion criteria for the comparison physician survey have been previously reported by our group.[8,21]

Medical physicians and surgeons in the United States and Canada completed the physician survey. We limited our comparison of risk managers to medical physicians because we had previously noted differences in error-disclosure attitudes and behaviors between medical physicians and surgeons.[21] We excluded medical physicians practicing in Canada from the comparison because we surveyed risk managers only within the United States. The physician survey was performed in the metropolitan region of St. Louis (including Columbia, Missouri, and southern Illinois) and the metropolitan region of Seattle.

Survey Content

The risk manager survey* was adapted from a similar survey of 3,000 physicians in the United States and Canada conducted between July 2003 and March 2004, which was previously published by our group.[5,8,9,22] Definitions for key terms (*adverse event, medical error, serious error, minor error,* and *near miss*) were provided at the beginning of the risk manager survey and via a link at the top and bottom of each survey page (Table 1, above).

The risk manager survey included questions exploring the respondent's general attitudes about medical errors, what kinds of errors should be disclosed, and how disclosure is managed at his or her institution. Risk managers were asked about the presence and adequacy of error-reporting systems at their hospital, whether these systems lead to improvements in patient care, and about the adequacy of mechanisms to inform physicians about the errors that occur in their hospitals. In addition, risk managers answered questions regarding the level of opposition toward error disclosure among physicians as well as what specific situations might decrease the chance that the risk manager would recommend disclosure of a serious error (for example, whether the patient was aware of the error, concern over being sued).[11]

Both risk manager and physician respondents randomly received one of two medical cases, differing in the patient's awareness of the error, a factor known to influence physician disclosure of the error.[5,8] The first medical scenario (Sidebar, page 103), an insulin overdose due to an order error resulting in an ICU admission with expected complete recovery, was designed to simulate an event more likely to have been independently recognized as an error by the patient (that is, a more obvious error). The second medical scenario, a missed laboratory report resulting in symptomatic hyperkalemia requiring cardioversion and hospitalization with expected full recovery, was designed to simulate an event that the patient was less likely to have recognized as an error (a less obvious error).

Risk manager respondents answered the same five questions

* The risk manager and physician surveys are available from Dr. Loren by e-mail request.

Sidebar. Text of Scenarios

Insulin Overdose
A diabetic patient is admitted to the hospital for a chronic obstructive pulmonary disease (COPD) exacerbation. The attending physician handwrites an order for the patient to receive "10 U" of insulin. The "U" in the order looks like a zero. The following morning the patient is given 100 units of insulin, 10 times the patient's normal dose, and is later found unresponsive with a blood sugar level of 35. The patient, who is resuscitated and transferred to the ICU, is expected to make a full recovery.

Hyperkalemia
A physician starts an outpatient on a new medicine with a common side effect of increasing the potassium level. The patient's baseline potassium level is normal (4.0). The physician orders a repeat potassium blood test to be drawn in the next week, but forgets to check the lab results. Two weeks after the patient begins this new medicine the patient starts feeling palpitations and goes to the emergency department (ED). In the ED, the patient experiences an episode of ventricular tachycardia requiring cardioversion. The patient's potassium at the time of this event is 7.5. The patient is hospitalized for four days and makes a full recovery. The patient returns to the physician's office for a follow-up visit. On reviewing the patient's chart, the physician sees the overlooked labs, which showed the patient's potassium had risen substantially from 4.0 to 5.6. Had the physician seen this elevated potassium earlier, he would have stopped the medicine and treated the hyperkalemia, likely avoiding the life-threatening arrhythmia.

about the scenarios that were in the physician survey: (1) "How likely do you think it is that the patient will file a malpractice suit due to this error?" (2) "What would you most likely recommend about error disclosure to the patient?" (3) "What would you most likely recommend the patient be told about what happened?" (4) "What would you most likely recommend the patient be told regarding an apology?" and (5) "What would you most likely recommend the patient be told about how the error would be prevented in the future?" The phrasing of these risk manager survey questions was modified slightly from the parallel questions in the physician survey to reflect the differences between the risk manager and physician roles in disclosure (that is, the risk managers were asked what they would *recommend* regarding disclosure, whereas the physicians were asked what they would disclose). For each of these scenario questions (except "How likely do you think it is that the patient will file a malpractice suit due to this error?") scripted responses representing increasing levels of disclosure detail were provided as answer choices. The full text of the responses has been previously published.[8]

The Institutional Review Board at Washington University in St. Louis approved both the risk manager survey and the physician survey.

Statistical Analysis

Descriptive statistics were calculated for demographic variables. Continuous variables are reported as means with standard deviations, and categorical variables are reported as percentages. Four-choice Likert scales were dichotomized at the midpoint (for example, agree and strongly agree versus disagree and strongly disagree). Recent literature supports the expectation that harmful errors should be disclosed to patients.[23] Consequently, for the question asking respondents whether serious errors should be disclosed, the response "strongly agree" was dichotomized from the three other responses ("agree", "disagree," and "strongly disagree"). Similarly, for the question asking respondents if they would recommend disclosing the scenario error, the response "definitely disclose" was dichotomized from the three other responses ("probably disclose", "disclose only if asked by the patient", "do not disclose"). The parallel responses to each question in the insulin overdose and hyperkalemia scenarios were first aggregated to explore general scenario disclosure trends between the risk managers and the physicians. The risk managers' and the physicians' responses to each scenario question were then compared independently. Chi-square or Fischer exact tests were used to compare proportions between risk mangers and physicians. Two-tailed tests with $p < .05$ were used throughout the analyses for establishing statistical significance. Analyses were performed with SPSS version 15.0 (SPSS, Chicago) and Prism 4 (GraphPad Software, Inc., San Diego) for Macintosh.

Results

Characteristics of Respondents

There were 1,673 eligible responses from risk managers, representing a 56% response rate (1,673 responses/2,988 risk managers eligible to receive surveys). Eighty-eight percent of the risk managers worked in a hospital setting, and 28% of these hospital-based respondents reported working in an academic medical center (Table 2, page 104). Risk managers were distributed across all states, including Alaska and Hawaii. The majority were female (86%) and had been working in their current position for at least 7 years, with a mean age of 49.6 years. As previously reported, 49% of responding risk managers were present during error-disclosure conversations, and 26% personally disclose errors to patients.[11]

The physician survey response rate (63%) and detailed characteristics of the physicians who participated have been reported elsewhere.[8,21] Forty-one percent of the physicians were in private practice, 33% were affiliated with an academic medical center, 72% were male, and 74% spent a least half of their time

in clinical practice. The physicians reported an average age of 48 years (standard deviation [S.D.], 9 years) and had been practicing for 16 years (S.D., 9 years).

Risk Managers' General Patient Safety and Disclosure Attitudes

Eighty-three percent of responding risk managers agreed that medical errors are one of the most serious problems in health care and are usually caused by system failures (Table 3, page 105). Fifty-seven percent of the risk managers agreed that current systems for physicians to report patient safety problems are adequate, and only 51% of the risk managers agreed that current mechanisms to inform physicians about errors that occur in their hospitals or health care organizations are adequate.

As shown in Table 4 (page 105), 70% percent of responding risk managers strongly agreed with the statement that serious errors should be disclosed; 19% agreed that near misses should be disclosed. Thirty-nine percent of the risk managers agreed that physicians are opposed to disclosing serious medical errors, and 73% agreed that physicians are opposed to disclosing minor errors to patients.

Risk Managers' Recommendations Regarding Disclosure of the Scenario Error

As shown in Table 5 (page 106), 47% of the risk managers responded that they thought the patient was somewhat or very likely to file a malpractice suit due to the scenario error. Across both scenarios, 76% of the risk managers would definitely recommend that the error be disclosed. Forty-two percent of the risk managers would use the word *error* in the explanation of the events, 21% would offer a full apology recognizing the harm caused, and 62% would offer full details about how the error would be prevented in the future.

The risk managers who received the insulin overdose scenario (more obvious error), compared to the risk managers who received the hyperkalemia scenario (less obvious error), were more likely to definitely recommend that the error be disclosed (87% versus 64%, $p < .001$) and use the word *error* in their explanation to the patient (48% versus 36%, $p < .001$) but were less likely to offer full details about how the error could be prevented in the future (56% versus 68%, $p < .001$).

Comparison of Risk Managers and Physicians: General Attitudes

As shown in Table 3, risk managers were more likely than the physicians to agree that medical errors are one of the most serious problems in health care (83% versus 65%, $p < .001$) and are usually caused by system failures (84% versus 58%, $p < .001$). Risk managers were more likely than physicians to report that system changes to improve patient safety occur after errors are reported (94% versus 75%, $p < .001$) and that current mechanisms to inform physicians about errors that occur in their hospitals or health care organizations are adequate (51% versus 17%, $p < .001$).

As shown in Table 4, risk managers were more likely to strongly agree with the statement that serious errors should be disclosed (70% versus 49%, $p < .001$) and were less likely to agree that near misses should be disclosed (19% versus 32%, $p < .001$). Risk managers were also less likely than physicians to endorse each of the described potential barriers to disclosure, such as if the patient was unaware of the error or might become angry (Table 6, page 107).

Table 2. Characteristics of Risk Managers (N = 1,673)

Work Environment	
Hospital-based employment (n = 1,472)	88%
■ Academic medical center	28%
■ Pediatric hospital	14%
Hospital size	
■ < 200 bed	43%
■ 200–399 beds	31%
■ 400 or greater beds	26%
Job Characteristics	
Worked in health care risk management 7 years or greater	62%
Time associated with patient safety work	
■ ≤ 25%	31%
■ 26%–50%	34%
■ 51%–75%	23%
■ > 75%	12%
Nature of Involvement with Disclosing Medical Errors to Patients*	
■ None	7%
■ General education about error disclosure	74%
■ Just-in-time coaching for staff who will disclose error	62%
■ Present for error disclosure	49%
■ Personally disclose the error	26%
■ Follow up with patient and family	55%
■ Had disclosed a serious error to a patient	64%
Demographics	
Gender (female)	86%
Mean age (years)	49.6

* Gallagher T., et al.: National Survey: Risk managers' attitudes and experiences regarding patient safety and error disclosure. *ASHRM Journal* 26(3):5, 2006.

Table 3. Risk Managers' and Physicians' General Attitudes About Patient Safety and Error Reporting

	Risk Managers (*N* = 1,472)	Medical Physicians (*N* = 1,311)	*p*
Medical errors are one of most serious problems in health care. (agree)	83%	65%	< .001
Medical errors are usually caused by system failures. (agree)	84%	58%	< .001
Does your hospital/health care organization have an error reporting system for physicians to use to improve patient safety?			
No	15%	16%	.370
Yes	81%	39%	< .001
Don't know	4%	45%	< .001
Current systems for physicians to report patient safety problems are adequate. (agree)	57%	29%	< .001
At my hospital or healthcare organization, system changes to improve patient safety occur after errors are reported. (agree)	94%	75%	< .001
Current mechanisms to inform physicians about errors that occur in their hospitals or health care organizations are adequate. (agree)	51%	17%	< .001

Table 4. Risk Managers' and Physicians' Attitudes About Error Disclosure

	Risk Managers (*N* = 1,472)	Medical Physicians (*N* = 1,311)	*p*
Near misses should be disclosed. (agree/strongly agree)	19%	32%	< .001
Minor errors should be disclosed. (agree/strongly agree)	75%	77%	.118
Serious errors should be disclosed. (agree or strongly agree)	98%	98%	
Serious errors should be disclosed (strongly agree)	70%	49%	< .001
Physicians are opposed to disclosing serious errors to patients. (agree/strongly agree)	39%	N/A	N/A
Physicians are opposed to disclosing minor errors to patients. (agree)	73%	N/A	N/A
Disclosure would make it LESS likely that the patient would sue. (agree/strongly agree)	58%	69%	< .001

Comparison of Risk Managers and Physicians: Error Scenarios

Risk managers were more likely than physicians to endorse disclosure of the error across both scenarios (Table 5). For example, 76% of risk managers would "definitely recommend" disclosure, while 50% of physicians would "definitely disclose" the error ($p < .001$). However, risk managers and physicians did not similarly endorse all elements of full error disclosure (statement that an error occurred, complete description of the event, apology recognizing harm caused by the error, description of how the error will be prevented from recurring) in the scenarios. Overall, a greater proportion of risk managers than physicians recommended disclosing full details about how the error would be prevented in the future (62% versus 51%, $p < .001$). However, risk managers were nearly half as likely to recommend offering a full apology compared with physicians (21% versus 39%, $p < .001$). Within the more-obvious insulin overdose scenario, a lower proportion of risk managers supported using the word *error* in the disclosure statement compared with physicians (48% versus 71%, $p < .001$).

Discussion

Increasingly, planning and conducting error-disclosure conversations involves multiple team members including risk managers. This study, the first to our knowledge to compare medical physicians' and risk managers' attitudes regarding patient safety and error disclosure, found that these two stakeholders differ regarding whether errors are a serious health care problem, the adequacy of error-reporting mechanisms, and whether and how errors should be disclosed. Although these

Table 5. Risk Managers' and Physicians' Responses to Scenarios

	Combined			Insulin Scenario (*more visible*)			Hyperkalemia Scenario (*less visible*)		
	Risk Managers (*N* = 876)	Medical Physicians (*N* = 793)	*P*	Risk Managers (*N* = 463)	Medical Physicians (*N* = 400)	*P*	Risk Managers (*N* = 413)	Medical Physicians (*N* = 393)	*P*
How likely do you think it is that you will be sued/the patient will file a malpractice suit due to this error? (somewhat/very likely)	47%	39%	.01	51%	38%	.001	43%	39%	.328
Definitely disclose/definitely recommend disclosure?	76%	50%	< .001	87%	65%	< .001	64%	34%	< .001
Use the word *error* in an explanation of what happened?	42%	56%	.63	48%	71%	< .001	36%	40%	.547
Offer a full apology recognizing the harm caused?	21%	39%	< .001	23%	42%	<.001	18%	35%	< .001
Offer full detail about how the error will be prevented in the future?	62%	51%	< .001	56%	41%	< .001	68%	60%	.064

divergent attitudes might foster conflict within the health care team and might inhibit open communication about errors, our study also highlights opportunities for collaboration between risk managers and physicians that could enhance disclosure.[24,25]

Risk managers have historically been portrayed as resisting the disclosure of errors to patients, fearing disclosure's financial impact on the institutions that employed them.[19,20,26] However, we found that risk managers in this study were generally more supportive of disclosing medical errors than physicians. Previous research has suggested that physician shame and embarrassment, as well as fear of being sued, are important factors that prevent physicians from disclosing errors to patients.[15,18,27] Our data suggest that risk managers are less likely than physicians to be influenced by such barriers. Risk managers' high level of support for disclosure makes them potentially important advocates for open communication with patients about adverse events and errors.

Despite their overall support for disclosure, these risk managers were less likely to recommend using the word *error* and less likely to offer a full apology than were the physicians in these hypothetical scenarios. These risk managers also expressed greater concern than did physicians that the error would lead to litigation. Risk managers may be concerned that specific elements of a disclosure, such as an explicit apology, could represent an admission of liability. Yet if risk managers inadvertently send mixed messages, such as advocating for disclosure but advising against apology, confused physicians may conduct disclosures that move even farther away from patient and family expectations.

Many organizations are using risk managers as "disclosure coaches" to provide "just-in-time" support for clinicians, a practice recommended by the National Quality Forum.[28,29]* Risk managers bring several strengths to the disclosure process, including their overall support for disclosure and first-hand knowledge of the consequences of defective disclosures. In addition, in their role as patient safety administrators, risk managers may be more likely than physicians to become involved in error analyses. Despite these strengths, risk managers may not be comfortable with all the elements of error-disclosure conversations that patients desire, such as a full apology.[30] In this study, physicians exhibited a greater willingness than the risk managers to explicitly use the word *error* and to offer an apology in disclosure conversations. Thus a disclosure process that promotes collaboration between risk managers and physicians could take advantage of both parties' respective strengths and

* The 2009 Executive Summary, which summarizes Safe Practice #7 (Disclosure) can be found at http://www.qualityforum.org/Publications/2009/03/Safe_Practices_for_Better_Healthcare–2009_Update.aspx (National Quality Forum: *Safe Practices for Better Healthcare–2009 Update*; last accessed Jan. 12, 2010).

Table 6. Risk Managers' and Physicians' Perceived Barriers to Disclosure*

	Risk Managers (*N* = 1,472)	Medical Physicians (*N* = 1,311)	*p*
Which of the following would make it LESS likely that you would *recommend disclosure (RM) or disclose (MD)* a serious error to a patient (yes)			
Patient unaware of the error	9%	24%	< .001
If I think the patient would not want to know about the error	19%	32%	< .001
If I think the patient would become angry	2%	13%	< .001
If the physician did not know the patient very well	1%	20%	< .001
If I think the physician might get sued	3%	27%	< .001
If I think the patient would not understand the information	47%	61%	< .001

* RM, risk manager; MD, medical physician.

lead to disclosures that better meet patient expectations.

However, the differences that we found between risk managers' and physicians' disclosure attitudes could also lead to conflict between these parties and diminish the effectiveness of disclosures. As disclosures increasingly involve collaborations between risk managers and physicians, organizations should anticipate such potential conflicts and develop procedures for resolving disagreements about disclosures. Programs to train physicians and risk managers in disclosure should include basic conflict resolution skills to reduce the likelihood that such disagreements will impair the disclosure process. In addition, institutional disclosure policies should clearly articulate who in the organization has final authority over whether and how disclosures will take place.

Preventing future errors depends on recognition and identification of medical errors and confidence among its users that their observations will lead to changes.[2,3,31–34] The risk managers in this study were more likely than physicians to believe that current error-reporting systems are adequate, that changes take place after errors are reported, and that physicians are informed about these errors when they occur. Yet, both risk managers and physicians indicated that there is much room for improvement in error-reporting systems. Closer collaboration between risk managers and physicians around implementation and management of event-reporting systems could increase physicians' awareness of these systems, help risk managers both understand the challenges that end users experience with these systems, and identify strategies for improvement.

The strengths of this study include the robust response rates from both risk managers and physicians and the broad geographic representation of responding risk managers. Our study also has several limitations. The risk managers in this study were sampled from the entire United States, whereas the physicians were sampled in two broad metropolitan regions and thus were not identical geographic groupings. The risk manager and physician surveys were conducted two years apart, which could partially account for the observed differences in the two groups. The methodologic challenges of comparing different surveys may limit the ability to compare risk managers' and physicians' disclosure attitudes. The social desirability of responses in these surveys may have influenced the reported attitudes or selections of scenario responses, skewing our results to suggest that respondents have more favorable attitudes than they actually hold. Furthermore, this study employs scenarios and does not capture in situ practices of either risk managers or physicians. Future research should seek to study how risk managers and physicians participate in actual disclosures. We only included health care facility–based risk managers in our analysis, so that these results may not generalize to risk managers in other settings.

Conclusions

Risk managers and physicians are both involved in the disclosure of harmful errors to patients but have different attitudes about effective disclosure strategies. Institutional strategies that foster effective collaboration between these two key participants in the disclosure process could help ensure that patients' needs are better met after errors. J

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David J. Loren, M.D., is Assistant Professor of Medicine, Division of Pediatrics, University of Washington, Seattle. **Jane Garbutt, M.B., Ch.B.,** is Associate Professor of Medicine, Department of Medicine, Washington University School of Medicine, St. Louis. **W. Claiborne Dunagan, M.D.,** is Professor of Medicine, Washington University School of Medicine and Vice-President, Quality, BJC HealthCare, St. Louis. **Kerry M. Bommarito, M.P.H.,** is Program Coordinator, the Goldfarb Patient Safety and Quality Fellowship, Department of Medicine, Washington University School of Medicine. **Alison G. Ebers** is Program Coordinator, KL2 (Translational Research Scholars) Program, Department of Medicine, Washington University School of Medicine. **Wendy Levinson, M.D.,** is Sir John and Lady Eaton Professor and Chair, Department of Medicine, University of Toronto, Toronto. **Amy D. Waterman, Ph.D.,** is Assistant Professor of Medicine, Department of Medicine, Washington University School of Medicine; and **Victoria J. Fraser, M.D.,** is J. William Campbell Professor of Medicine, Division of Infectious Diseases. **Elizabeth A. Summy, M.Sc., C.A.E.,** is Vice President, American Hospital Association, Chicago. **Thomas H. Gallagher, M.D.,** is Associate Professor of Medicine, Department of General Internal Medicine, University of Washington, Seattle. Please address correspondence to David Loren, dloren@uw.edu.

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